1K

PRELIMINARY SITE CONCEPTUAL MODEL AND WORK PLAN FOR SITE ASSESSMENT ACTIVITIES

BELT STREET PIPELINE
SAN DIEGO, CALIFORNIA

GEOCON

CONSULTANTS, INC.

ENVIRONMENTAL
GEOTECHNICAL
MATERIALS

PREPARED FOR

THE CITY OF SAN DIEGO
ENVIRONMENTAL SERVICES DEPARTMENT
SAN DIEGO, CALIFORNIA

PREPARED BY

GEOCON CONSULTANTS, INC.
6970 FLANDERS DRIVE
SAN DIEGO, CALIFORNIA 92121
Tel. (858) 558-6100 Fax (858) 558-8437
Email: environmental@geoconinc.com

NOVEMBER 5, 2002

GEOCON
CONSULTANTS, INC.
ENVIRONMENTAL ■ GEOTECHNICAL ■ MATERIALS

Project No. 09225-06-01
November 5, 2002

HAND-DELIVERED

Mr. Ted Olson
The City of San Diego
Environmental Services Department
9601 Ridgehaven Court, M.S. 1103-A
San Diego, California 92123-1636

Subject: BELT STREET PIPELINE
SAN DIEGO, CALIFORNIA
PRELIMINARY SITE CONCEPTUAL MODEL AND WORK PLAN FOR SITE ASSESSMENT ACTIVITIES

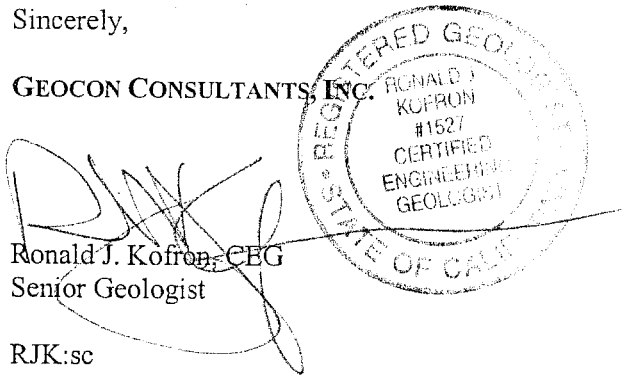
Dear Mr. Olson:

At your request, Geocon has prepared this preliminary site conceptual model (SCM), and work plan for site assessment activities at Belt Street on the National Steel and Shipbuilding (NASSCO) facility on San Diego Bay.

Please call us if you have any questions.

Sincerely,

GEOCON CONSULTANTS, INC.



Ronald J. Kofron, CEG
Senior Geologist

RJK:sc

(12) Addressee

TABLE OF CONTENTS

PRELIMINARY SITE CONCEPTUAL MODEL AND
WORK PLAN FOR SITE ASSESSMENT ACTIVITIES

Page

Figures:

1. INTRODUCTION

On behalf of the City of San Diego, Geocon has prepared this preliminary site conceptual model (SCM) and work plan for site assessment activities as directed by Order No. R9-2002-0083 issued April 3, 2002, by the California Regional Water Quality Control Board, San Diego Region (RWQCB).

The site is located in the City of San Diego on Belt Street, inside Gate 14 of the National Steel and Shipbuilding (NASSCO) premises on San Diego Bay, California (Figure 1). The NASSCO facility is situated on tidelands property leased from the Port of San Diego.

2. BACKGROUND

On February 1, 2001, an underground fuel pipeline was ruptured during a geotechnical investigation being conducted along Belt Street in San Diego, California. The underground product pipeline is located within a portion of Belt Street that is now located on the NASSCO facility. The pipeline was ruptured during the drilling of a soil boring for a geotechnical investigation by Tri-County Drilling, Inc., under contract to AMEC, a geotechnical consultant contracted by the City of San Diego. The pipeline is owned and operated by Chevron Products Co. (Chevron). The rupture of the pipeline caused a release of approximately 2,730 gallons of unleaded gasoline to the ground and groundwater, based on the change in tank levels in the Chevron Harbor Bulk Terminal as reported by Chevron Products Co. (Chevron).

The Chevron Harbor Bulk Terminal consisted of two tank farms, an upper tank farm at Sicard Street and East Harbor Drive, and a lower tank farm at Sicard Street and Belt Street (Figure 2). The tank farms were separated by Belt Street and the Atchison Topeka and Santa Fe railway right-of-way. Fuel is sent to the tank farms through a pipeline from the Kinder Morgan Mission Valley Terminal. Diesel and Jet-A fuel are stored at the upper tank farm, and gasoline was stored at the lower tank farm. All tanker loading takes place at the upper tank farm, which has been in operation since prior to 1913. Fuel was formerly transported between the lower tank farm and the upper tank farm through 8-inch pipelines buried approximately 4 to 4.5 feet below the existing ground surface. It is our understanding that the lower Chevron terminal was removed from service in October 2000, as reported by Harding ESE in their report dated August 6, 2002.

2.1 Emergency Response Activities

According to the *Emergency Response and Remedial Action Report*, prepared by TRC dated July 27, 2001, the rupture occurred on February 1, 2001 at approximately 11:00 AM. Chevron immediately responded by shutting down the terminal pumps pressurizing the pipes. Chevron then notified the National Spill Response Center and also the Chevron Emergency Response Team (ERT). Chevron contracted Foss Environmental (Foss) to perform emergency response activities. Foss responded with a

Report of Geotechnical Investigation Belt Street Trunk Sewer Replacement Project, City of San Diego, Project No. 65E404, Allied Geotechnical Engineers, Incorporated, January 25, 2000.

Off-Site Assessment Report, Chevron San Diego Terminal No. 100-1252, 2351 East Harbor Drive, SAMD Case No. H03791-001, IT Corporation for Chevron Products Company, October 9, 2000.

In summary, periodic groundwater monitoring and sampling began in 1987 and free product has been reported in wells at the upper terminal since 1988. The lower Chevron Terminal received no further action status from the DEH in 2001.

In their October 2000 report, IT Corp. concluded that an area of petroleum impacted soil and groundwater on the NASSCO site was apparently "contiguous" to the known petroleum release below the upper Chevron terminal. We interpret IT Corporation's conclusion to mean that the hydrocarbons present on the eastern portion of the NASSCO property are an extension of the hydrocarbon plume originating on the upper Chevron Terminal. However, this area of the NASSCO site is to the east of the area where the pipe rupture occurred. Borings B-1 and B-2 were drilled approximately 24 and 85 feet from the area where the rupture would later occur in February 2001. Groundwater sample results from these two borings drilled in November 1999 indicate that benzene concentration was below 0.37 micrograms per liter. IT Corporation recommended the installation of up to four additional monitoring wells and the completion of six to nine direct push borings to collect soil and groundwater samples. We are not aware that this work has been completed.

A review of the *Second Quarter 2002 Groundwater Monitoring Report, Chevron Harbor Fuel Terminal No. 100-125,* prepared by Harding ESE dated August 6, 2002, indicates that free product thicknesses ranging from 0.01 foot to 1.21 feet were recorded in monitoring wells on the Chevron terminal and surrounding area including the NASSCO parking lot. The closest monitoring well to the site (MW-9) is located within approximately 90 feet from the location of the rupture in the pipeline. MW-9 has historically exhibited free product thicknesses ranging from 0.22 foot (November 1993) to 1.97 feet (February 1995). On June 26, 2002, 1.21 feet of free product was measured in MW-9.

2.3 Geologic and Hydrogeologic Site Conditions

According to *Geology of the San Diego Metropolitan Area, California, Bulletin 200,* published by the California Division of Mines and Geology, dated 1975, the site is mapped as underlain by artificial fill, probably from dredging San Diego Bay. The artificial fill is likely underlain by the Quaternary Bay Point Formation. According to descriptions given by Allied Geotechnical Engineers and IT Corp., soils consist of gray, damp, slightly silty, fine to medium sand with shell fragments to a depth of approximately 14 feet. From 14 to 26.5 feet, Bay Deposits consisting of gray, wet, loose, silty fine to medium sand and clayey sand are described.

The site is located in the Chollas Hydrologic Subarea (908.22) of the San Diego Mesa Hydrologic Area (908.20) of the Pueblo San Diego Hydrologic Unit (908.00). The Basin Plan indicates that beneficial uses of groundwater in this Hydrologic Area do not apply west of the eastern boundary of the right-of-way of Interstate 5 and that this area is exempted from the sources of drinking water policy. The site is located in this area; therefore, groundwater at the site is exempted from the sources of drinking water policy.

Groundwater occurs at the site at a depth of approximately 10 to 12 feet. According to Harding ESE, groundwater flows north and west, away from San Diego Bay which is located approximately 600 feet to the southwest at the nearest point to the site. Harding ESE acknowledges this pattern as anomalous. It is likely that the overall flow direction of groundwater is to San Diego Bay.

The California Regional Water Quality Control Board (RWQCB) has established the following cleanup goals for groundwater within 1,000 feet of San Diego Bay:

Benzene	400	micrograms per liter (µg/l)
Toluene	5,000	µg/l
Ethylbenzene	430	µg/l
Xylenes	10,000	µg/l
Naphthalene	2,350	µg/l
PNAs	300	µg/l

On November 13, 2001, the RWQCB issued a Directive for Groundwater Investigation Report pursuant to Water Code 132767 and has requested a preliminary SCM and a work plan to conduct a soil and groundwater investigation. This Directive was affirmed by Order No. R9-2002-0083 dated April 9, 2002.

3. PRELIMINARY SITE CONCEPTUAL MODEL

Geocon has developed a preliminary SCM based on the nature of the release, the geologic and hydrogeologic nature of the site, the distribution of contaminants in soil, groundwater, and soil vapor, and potential pathways and potential receptors (Figure 3). The SCM will be the basis for evaluating risks to potential receptors, the framework for the investigation and any further remedial effort to be conducted at the site. The SCM identifies potential receptors, and evaluates complete and incomplete pathways, current and reasonably foreseeable future risk to public health, ecological receptors, and surface water.

3.1 Underground Utilities

Geocon has reviewed available plans and has compiled drawings and an inventory of underground utilities that may act as preferential pathways for the migration of contaminants. The locations of existing utilities are shown on Figures 4 and 5.

Details on underground utilities in the vicinity of the site were obtained from the following sources:

Belt Street Trunk Sewer Improvement Plans, P&D Consultants for the City of San Diego, January 10, 1999, Sheet 4 of 11, 1 inch = 40 feet.

Belt Street Trunk Sewer Improvement Plans, P&D Consultants for the City of San Diego, March 14, 2000, Sheet 1 of 9, 1 inch = 150 feet.

City of San Diego Sewer Map 192-1725, 1 inch = 100 feet, City of San Diego, March 20, 1987.

City of San Diego Water Map 192-1725, 1 inch = 100 feet, City of San Diego, March 20, 1987.

Pipe Line Routing to Lower Tank Farm, Lower Tank Farm, San Diego Terminal, Standard Oil Company of California, December 1, 1973, As-built 1975 Page 9, 1 inch = 20 feet.

Cross sections showing the elevation and dimension of utilities, the fuel conveyance piping and the water table were prepared from the references cited above and are shown on Figures 6 and 7.

Storm Drain

The nearest storm drain to the release point is approximately 130 feet to the west. A 24-inch reinforced concrete pipe (RCP) conveys storm water from the foot of Sicard Street, south to Belt Street. The depth of the invert is approximately 4 fbg. The drain connects to a catch basin along the north side of Belt Street and continues to a manhole on the south side of Belt Street. From this point the storm drain continues westward under Belt Street. The storm drain discharges to San Diego Bay on the Southwest Marine property.

Drawings obtained from NASSCO show a smaller storm drain system to the south-southeast of the release that drains the steel storage area. The nearest catch basin of this system is approximately 340 feet from the release. The second catch basin of the same system is approximately 440 feet to the south of the release. Each catch basin feeds into a 12-inch RCP that join prior to discharging to San Diego Bay between Berths X and XI, approximately 800 feet south of the release (Figure 5).

A concrete surface swale also drains the western portion of the NASSCO site and drains to San Diego Bay as shown on Figure 5.

Sanitary Sewer

The sanitary sewers are the deepest utilities onsite. Available utility plans show two sewer mains crossing the site. A 21-inch main constructed of vitrified clay pipe (VCP) is shown along the north side of Belt Street. The invert elevation is approximately 3 feet MSL, or approximately 7½ fbg.

A second 15-inch main, also VCP, is shown along the south side of Belt Street. The invert elevation is approximately 5 feet MSL, or approximately 5½ fbg.

Water

Two water mains cross the site near the south side of Belt Street, one 16-inch and one 8-inch. Both are cast iron and are buried approximately 2 feet below grade.

Natural Gas

A natural gas line is shown in profile on the plans prepared by P&D, 1999, but is not shown in plan view. The diameter, pressure and construction of the pipe are not described, but is shown to be buried approximately 2 fbg.

The approximate location of the gas line was apparently marked out previously by Underground Service Alert and was plotted by Geocon on Figure 4, based on field observations.

Electricity

Electrical power is generally supplied by high voltage overhead wires, but some underground electrical conduits exist on the site for lighting and other uses. Available plans show electrical conduit crossing Belt Street at two locations, each approximately 150 feet away from the rupture. The diameter, voltage and construction of the conduit are not described, but are shown to be buried approximately 2 fbg.

Fuel and Vapor Conveyance Piping

Chevron did not respond to our requests for detailed information on the construction and history of the conveyance piping. According to a drawing dated 1975 provided by Chevron to the City of San Diego, the fuel and vapor conveyance piping system consists of the following individual pipes or conduits, in order from north to south:

1. 3-inch electrical conduit
2. 3-inch electrical conduit
3. 8-inch supreme to rack
4. 8-inch low lead to rack
5. 8-inch low lead fill line

6. 8-inch unleaded fill line
7. 8-inch supreme fill line
8. 8-inch unleaded to rack
9. 2-inch vapor recovery feed
10. 2-inch vapory recovery return
11. 2-inch spare

According to the P&D Drawing dated January 10, 1999, the fuel and vapor conveyance piping is depicted at a depth of approximately 4 fbg, but the plans indicate that exact elevation (or depth) is unknown and must be verified by any contractor working in the area. Because the lower Chevron terminal was removed from service in 2000, it is likely that these lines are no longer in service, although Chevron has not confirmed this assumption.

3.2 Evaluation of Pathways

Potential pathways are shown on the site conceptual model diagram on Figure 3. The primary source is the pipeline and the primary release mechanism was the rupture that occurred on February 2, 2001.

Based on a review of the report of Emergency Response and Remedial Action Report by TRC, there is no mention that any fuel released from the ruptured pipe reached storm drains or surface water. The potential pathway was eliminated on the day that emergency response activities were concluded.

The secondary source of petroleum hydrocarbons is the remaining soil. Three potential release mechanisms are identified:

- Emission of dust particles containing hydrocarbons into the air
- Volatilization of petroleum hydrocarbons into the air
- Infiltration of hydrocarbons from soil to groundwater or to surface water

We do not consider the air pathways at this site to be complete because the site is paved with asphalt. The site is open-air with a constant sea breeze. There are no permanent structures within the area to accumulate vapor.

Infiltration of petroleum hydrocarbons from soil to groundwater appears to be the pathway of prime concern. Petroleum hydrocarbons may migrate downward by gravity to groundwater, which in turn may have a hydrologic connection to the surface waters of San Diego Bay.

Migration of petroleum hydrocarbons through soil directly to surface water is possible, but considered unlikely because of the distance to the bay. It is 600 feet to San Diego Bay at its nearest point on the Southwest Marine property. We also consider it unlikely because of the presence of the large free product plume at the upper Chevron Terminal that approaches to within 85 feet of the location of the

ruptured pipe. This plume has been present for at least 10 years prior to the pipe rupture and no impacts to San Diego Bay have yet been identified from this release on the western portion of the NASSCO site. Addition assessment activities are planned by Chevron for the eastern portion of the NASSCO site.

Migration of petroleum hydrocarbons through utility trenches is a potential pathway that will be evaluated as described in the workplan below.

3.3 Potential Risk to Human Health, Ecological Receptors and Surface Water

The potential risk to human health, ecological receptors, and surface water will be evaluated through implementation of the workplan described below. Based on a preliminary evaluation, the potential risk to human health appears to be very low. There are no beneficial uses of groundwater at this site, there is no incidental contact with soil containing hydrocarbons, and there are no permanent structures to accumulate vapors.

The threat to ecological receptors including the waters of San Diego Bay are dependent upon a complete pathway that will be evaluated by the site assessment activities as described below.

4. WORKPLAN FOR SITE ASSESSMENT ACTIVITIES

A work plan for a soil and groundwater investigation will be prepared describing the proposed activities to be performed to develop the SCM. In addition to a description of the proposed investigation such as the location of borings, monitoring wells and sampling methodology, the following specific items were requested by the RWQCB:

4.1 Purpose and Scope of Services

The purpose of the proposed site assessment is to evaluate the lateral and vertical extent of subsurface petroleum hydrocarbons and the extent of dissolved phase hydrocarbons in groundwater. Suspect pathways will also be evaluated to refine the preliminary SCM. The planned activities include drilling hand auger borings, exploratory borings using a Strataprobe, collecting soil and groundwater samples from those borings, and analyzing the samples in an on-site mobile laboratory. Pending the analytical results from the initial borings, additional borings may be drilled to further evaluate the lateral extent of hydrocarbons.

At least four groundwater monitoring wells will be installed using a hollow-stem-auger drill rig. Following well installation, a groundwater monitoring and sampling event will be performed by Geocon to evaluate if free-product is present and to collect groundwater samples, if not. The proposed scope of services is described below:

Task I - Pre-Field Activities

- Submit an application to the DEH to obtain a permit for the proposed borings and groundwater monitoring wells.

- Prepare a Health and Safety Plan prior to commencing the field activities. The Health and Safety Plan will include recommended levels of personal protective equipment to be used during the field activities and general health and safety considerations for field personnel.

- Mark the proposed boring locations.

- Contact Underground Service Alert to attempt to delineate subsurface public utilities and conduits in proximity to the proposed boring locations.

- Retain a subcontractor to perform a utility survey to attempt to locate underground utilities and potential underground anomalies in proximity to the proposed boring locations. Proposed boring locations may need to be adjusted in the field based on the presence of buried utilities.

- Review "As-built" plans provided by the City to attempt to locate underground improvements in proximity to the proposed boring locations.

- Retain subcontractors to provide and operate Strataprobe and hollow-stem-auger drill rigs, and retain the services of a California Department of Health Services (CDOHS)-certified mobile laboratory to analyze the soil and groundwater samples collected.

Task II – Hand Auger Borings and Strataprobe Borings

- Core the surface pavement at the locations of the borings.

- Hand auger borings will be advanced adjacent to each sewer trench to assess the potential for migration of hydrocarbons along the sewer trenches. Hand auger borings will also be advanced adjacent to the storm drain near the catch basin outside of Gate 14 to evaluate this potential pathway. The locations of the hand auger borings adjacent to utilities are shown on Figure 8.

- To assess the extent of hydrocarbons in soil samples and in in-situ groundwater samples, Geocon will drill exploratory borings using a Strataprobe. A hand auger will be used to drill the initial approximately 5 feet of each boring to minimize the risk of damaging potential subsurface utilities. The borings will be drilled to 5 feet below the water table. Additional borings will be drilled and sampled if the analytical results from the initial borings indicate that further on-site delineation is warranted.

- Collect soil samples continuously from each boring. The soil samples will be collected in clear acetate tubes. Selected tubes will be cut, sealed with Teflon sheets, capped, labeled, and relinquished to an on-site mobile laboratory for analyses.

- Collect groundwater samples from the borings using the Strataprobe. The groundwater samples will be collected through the sampling probe or from temporary PVC well screens, and placed in laboratory-provided glass sample containers. The containers will be sealed, labeled, and relinquished to the on-site laboratory for analyses.

- Submit the soil and groundwater samples to the on-site laboratory for analyses. The soil and groundwater samples collected will be analyzed for TPH as gasoline and diesel following the CDOHS test method. The soil sample from each boring with the highest TPH concentration and all groundwater samples collected will also be analyzed for volatile organic compounds (VOC), including benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary butyl ether (MTBE) and other fuel oxygenates following EPA Test Method 8260B.

Task III - Monitoring Well Installation

- Cut the concrete or pavement where monitoring wells will be installed. The approximate location of two of the proposed wells are shown on Figure 8. Two additional monitoring wells will be installed based on the results from the Strataprobe borings.

- Drill the borings that are to be completed as a monitoring well to approximately 17 feet using a hollow-stem-auger drill rig. Depth to groundwater is assumed to be approximately 12 feet. The boring will be completed as a groundwater monitoring well using 2-inch-diameter polyvinyl chloride (PVC) casing. Approximately 10 feet of PVC casing having 0.02-inch slots will be placed in the lower section of the well. A filter pack will be placed from the bottom of the boring to approximately 2 feet above the screened interval. The filter pack will be settled using a surge block before placement of the filter pack is completed. Bentonite will be placed from the top of the filter pack to a depth of approximately 3 feet. A flush-mounted, traffic-rated well cover will be set in concrete at the surface of the well.

- At least one soil sample will be analyzed for hydraulic conductivity for use in fate and transport evaluation.

- Place soil and wastewater generated during the well installation field activities in labeled, 55-gallon steel drums. The drums will be temporarily stored on-site for subsequent disposal pending the results of the laboratory analyses.

- Submit the required documentation of the Strataprobe drilling and monitoring well installation to the DEH within 60 days of completing the well installation.

Task IV - Groundwater Monitoring and Sampling

- Check for the presence of free-product, measure its thickness (if detected), and measure the depth to groundwater using an oil-water interface probe. This activity will be performed no sooner than 72 hours following the completion of the well installation.

- Purge the monitoring well, if free-product is not detected, of up to three volumes of water prior to collecting the groundwater sample. The water generated during well purging and sampling activities will be stored in a labeled, 55-gallon steel drum for subsequent disposal pending the results of the laboratory analyses.

- Collect a groundwater sample from the monitoring well using a new disposable polyethylene bailer. The groundwater sample will be placed in laboratory-provided sample containers, which will be labeled and then stored in a chilled cooler for delivery to a CDOHS-certified analytical laboratory.

- Submit the groundwater sample collected from the monitoring well to the laboratory for chemical analyses. The groundwater sample will be analyzed for TPH as gasoline and diesel, by the CDOHS test method, for BTEX and fuel oxygenates following EPA Test Method 8260B.

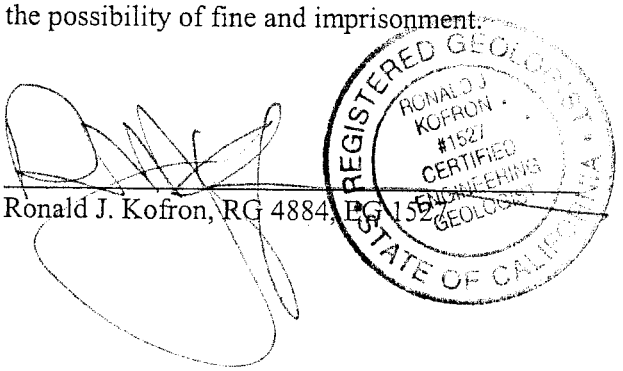
Task IV - Report Preparation

Prepare a report summarizing the results of the site assessment field activities described above. The report will include a figure depicting the locations of the exploratory borings and monitoring well, tables summarizing the laboratory results, and a discussion of findings, conclusions, revisions to the SCM, and recommendations for further work if necessary.

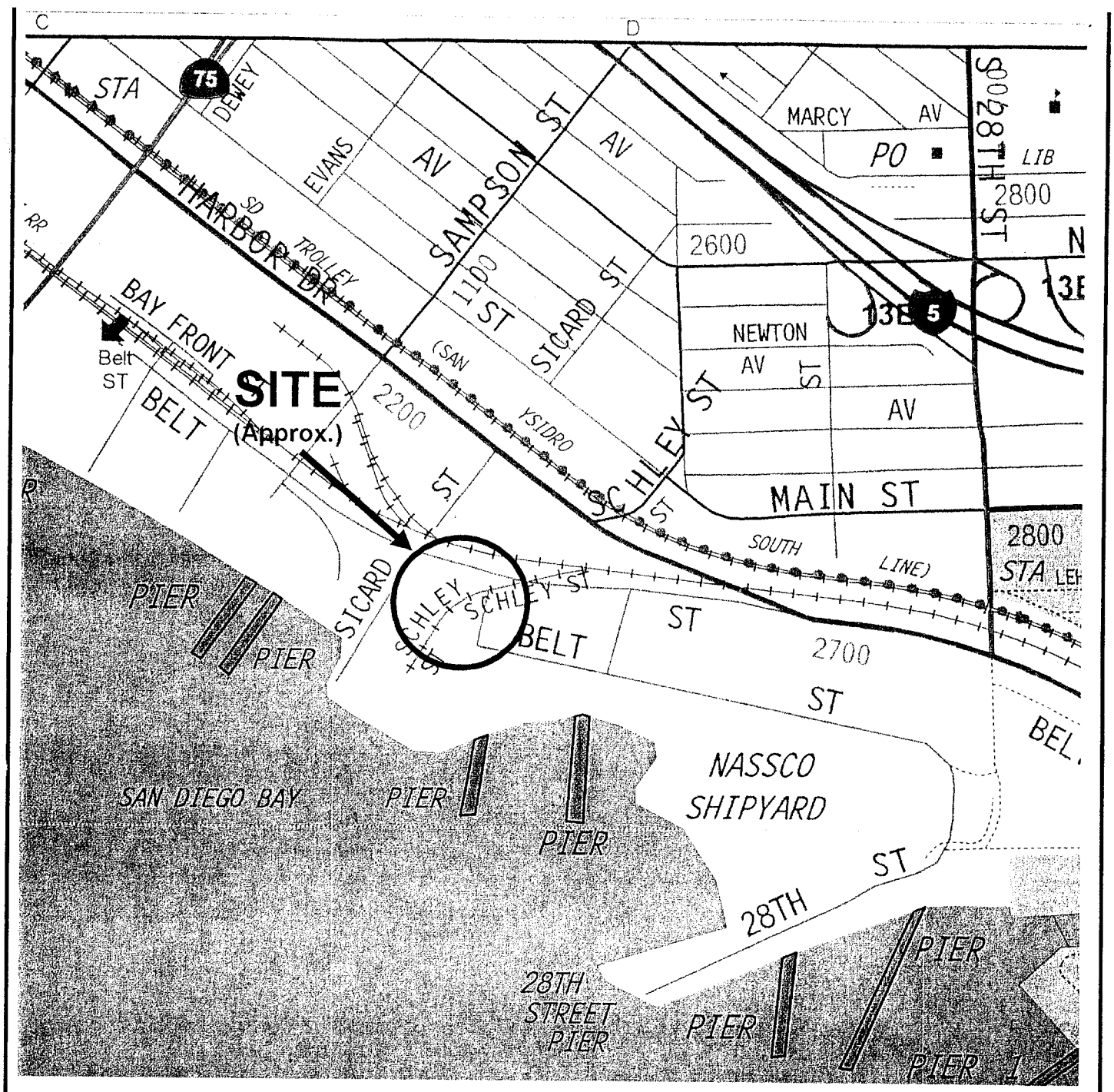
5. SIGNATURE/REGISTRATION

The site assessment detailed in this report was performed under the direct supervision of Mr. Ronald J. Kofron, Senior Geologist, Geocon Consultants, Inc. Mr. Kofron is a Registered Geologist (RG 4884 and Certified Engineering Geologist (EG 1527) in the State of California.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Ronald J. Kofron, RG 4884, EG 1527



SOURCE: 2003 THOMAS BROTHERS MAP
SAN DIEGO COUNTY, CALIFORNIA

N

No Scale

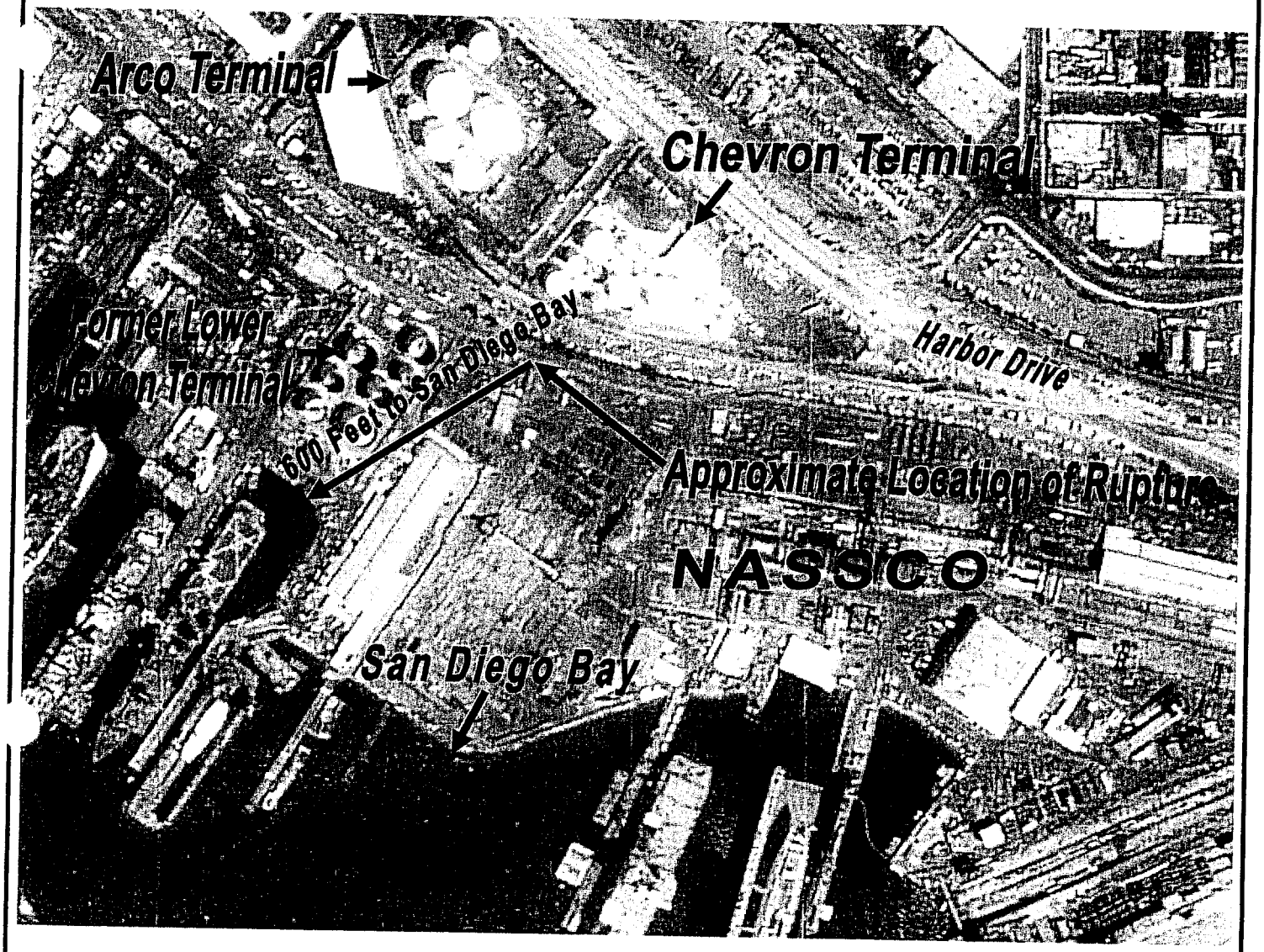
GEOCON
CONSULTANTS, INC
ENVIRONMENTAL ■ GEOTECHNICAL ■ MATERIALS
6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
PHONE 858 558-6100 - FAX 858 558-8437

RJK/SC

VICINITY MAP

BELT STREET PIPELINE
SAN DIEGO, CALIFORNIA

DATE: 11-5-2002 | PROJECT NO. 09225-06-01 | FIG. 1



SOURCE: www.terraserver.homeadvisor.msn.com
Aerial Photography
June 1, 1994
U.S. Geological Survey

N

1-Inch = 400 Feet

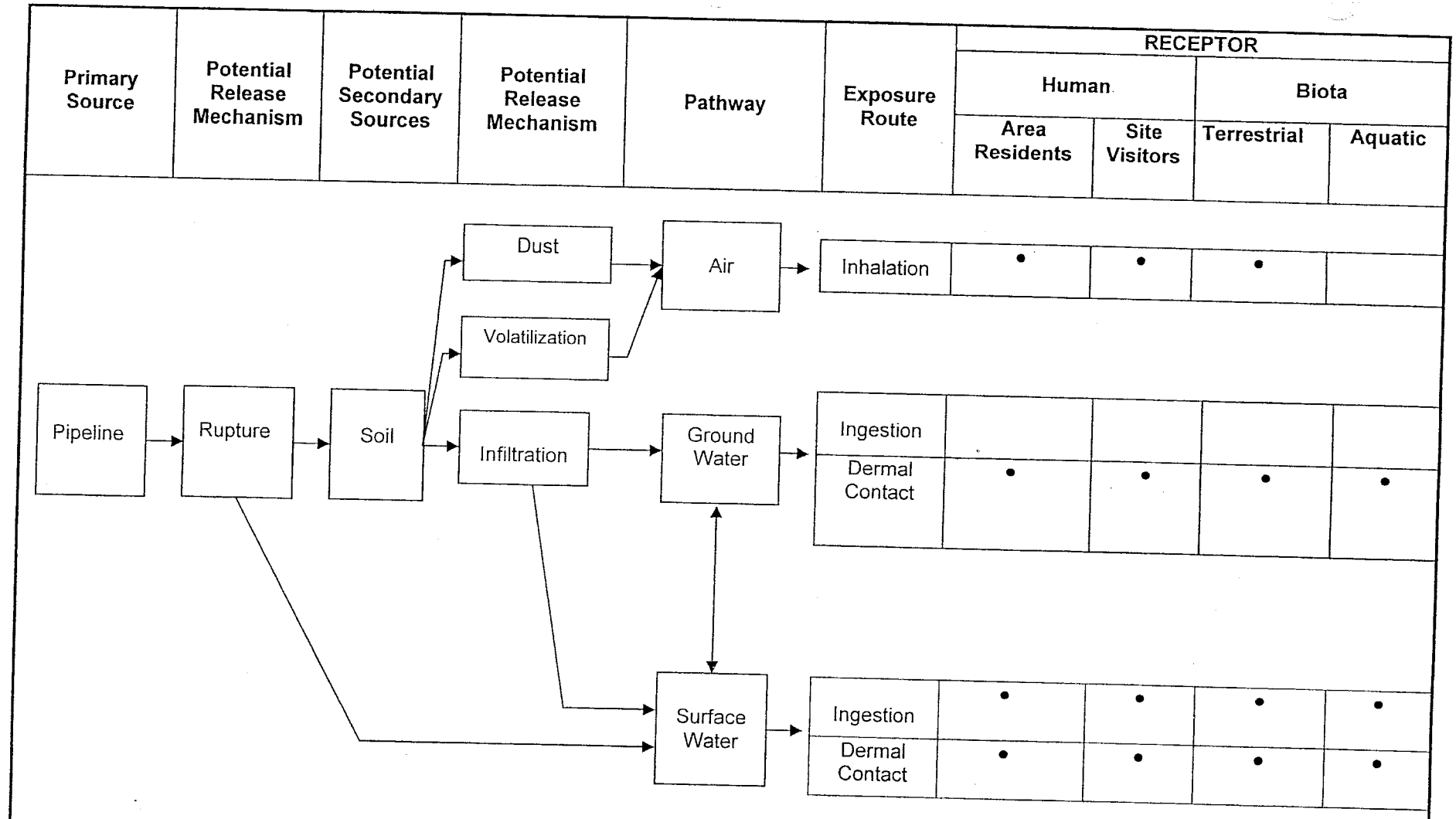
GEOCON
CONSULTANTS, INC
ENVIRONMENTAL ■ GEOTECHNICAL ■ MATERIALS
6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
PHONE 858 558-6100 - FAX 858 558-8437

RJK:sc

AERIAL PHOTOGRAPH OF SITE

BELT STREET PIPELINE
SAN DIEGO, CALIFORNIA

DATE: 11-5-2002	PROJECT NO. 09225-06-01	Figure 2

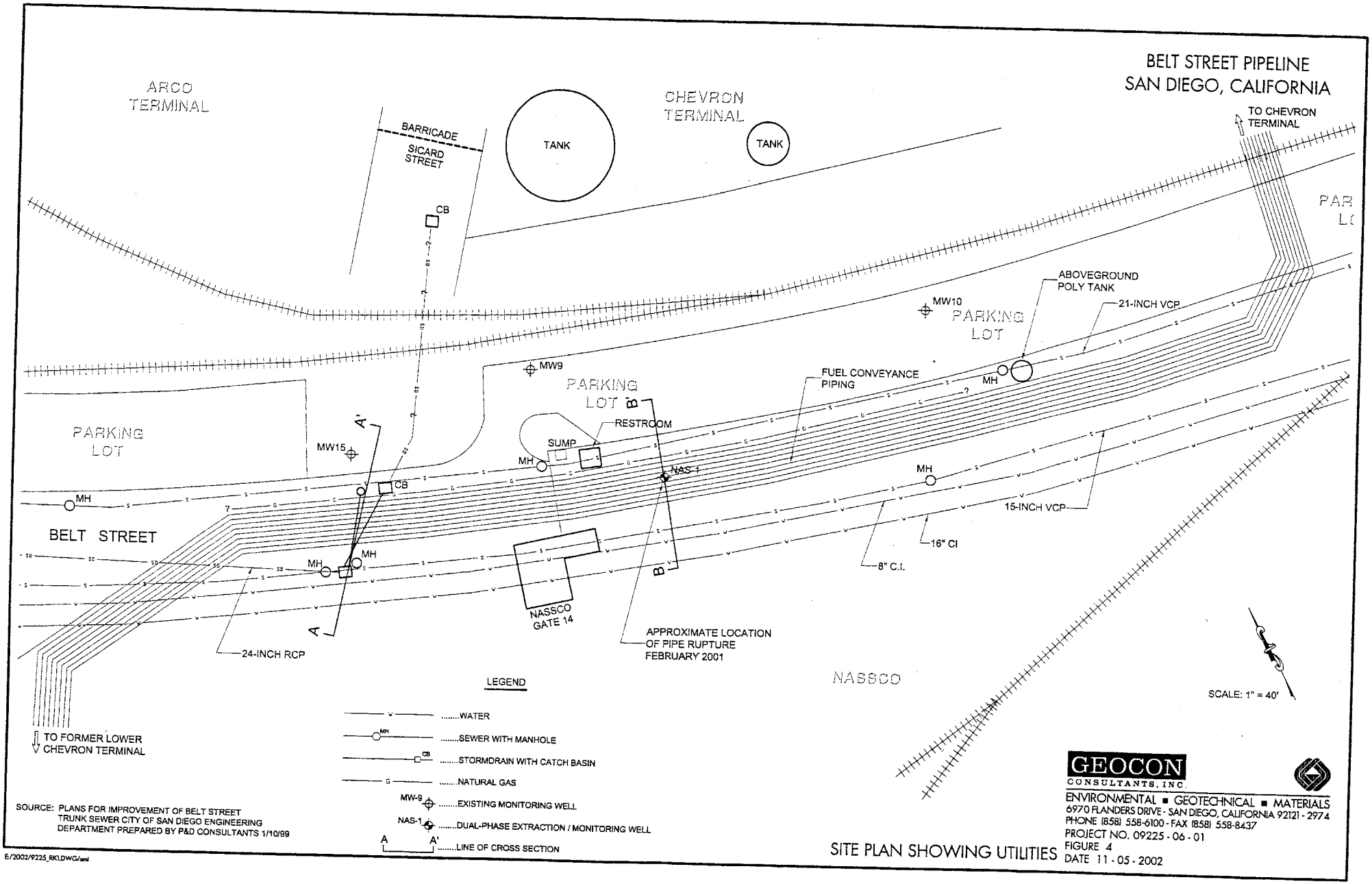


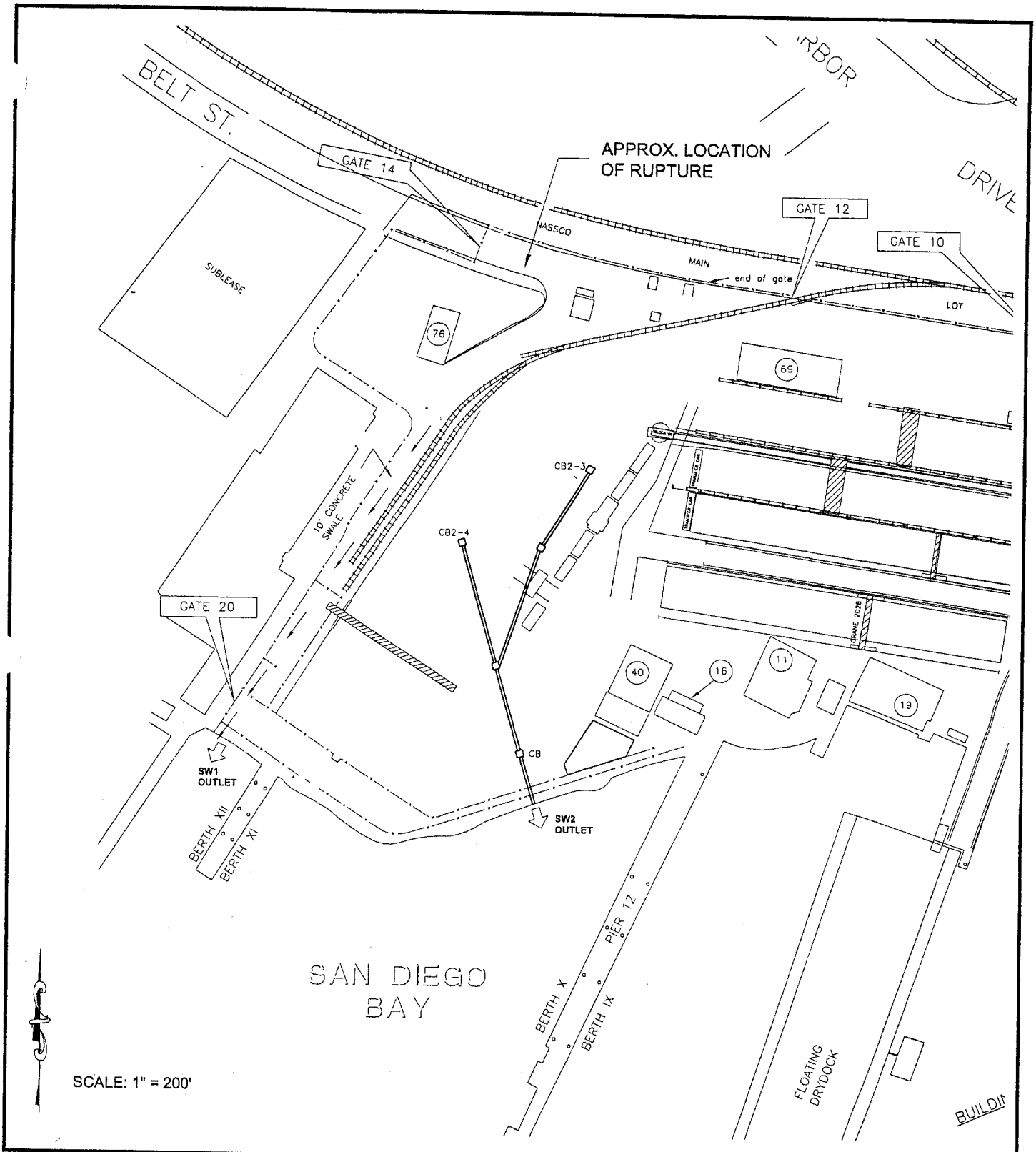
GEOCON
CONSULTANTS, INC
ENVIRONMENTAL ■ GEOTECHNICAL ■ MATERIALS
6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
PHONE 858 558-6100 - FAX 858 558-8437

CONCEPTUAL SITE MODEL

BELT STREET PIPELINE
SAN DIEGO, CALIFORNIA

DATE 11-5-2002 | PROJECT NO. 09225-06-01 | Figure 3


BELT STREET PIPELINE
SAN DIEGO, CALIFORNIA
ARCO TERMINAL
CHEVRON TERMINAL
TO CHEVRON TERMINAL
BARRICADE
SICARD STREET
TANK
TANK
CB
MW10
PARKING LOT
ABOVEGROUND POLY TANK
21-INCH VCP
MW9
PARKING LOT
FUEL CONVEYANCE PIPING
MH
A'
B'
PARKING LOT
MW15
SUMP
RESTROOM
MH
NAS-1
CB
MH
MH
15-INCH VCP
BELT STREET
MH
MH
16" CI
8" C.I.
A
B
NASSCO GATE 14
24-INCH RCP
APPROXIMATE LOCATION OF PIPE RUPTURE FEBRUARY 2001
NASSCO
LEGEND
WATER
SEWER WITH MANHOLE
STORMDRAIN WITH CATCH BASIN
NATURAL GAS
MW-9 EXISTING MONITORING WELL
NAS-1 DUAL-PHASE EXTRACTION / MONITORING WELL
A A' LINE OF CROSS SECTION
TO FORMER LOWER CHEVRON TERMINAL
SCALE: 1" = 40'
SOURCE: PLANS FOR IMPROVEMENT OF BELT STREET TRUNK SEWER CITY OF SAN DIEGO ENGINEERING DEPARTMENT PREPARED BY P&D CONSULTANTS 1/10/99
E/2002/9225_RKLDWG/aml
SITE PLAN SHOWING UTILITIES
GEOCON CONSULTANTS, INC.
ENVIRONMENTAL ■ GEOTECHNICAL ■ MATERIALS
6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE (858) 558-6100 - FAX (858) 558-8437
PROJECT NO. 09225 - 06 - 01
FIGURE 4
DATE 11 - 05 - 2002



GEOCON
CONSULTANTS, INC.
ENVIRONMENTAL ■ GEOTECHNICAL ■ MATERIALS
6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE (858) 558-6100 - FAX (858) 558-8437

RJK/AML		DSK/E0000

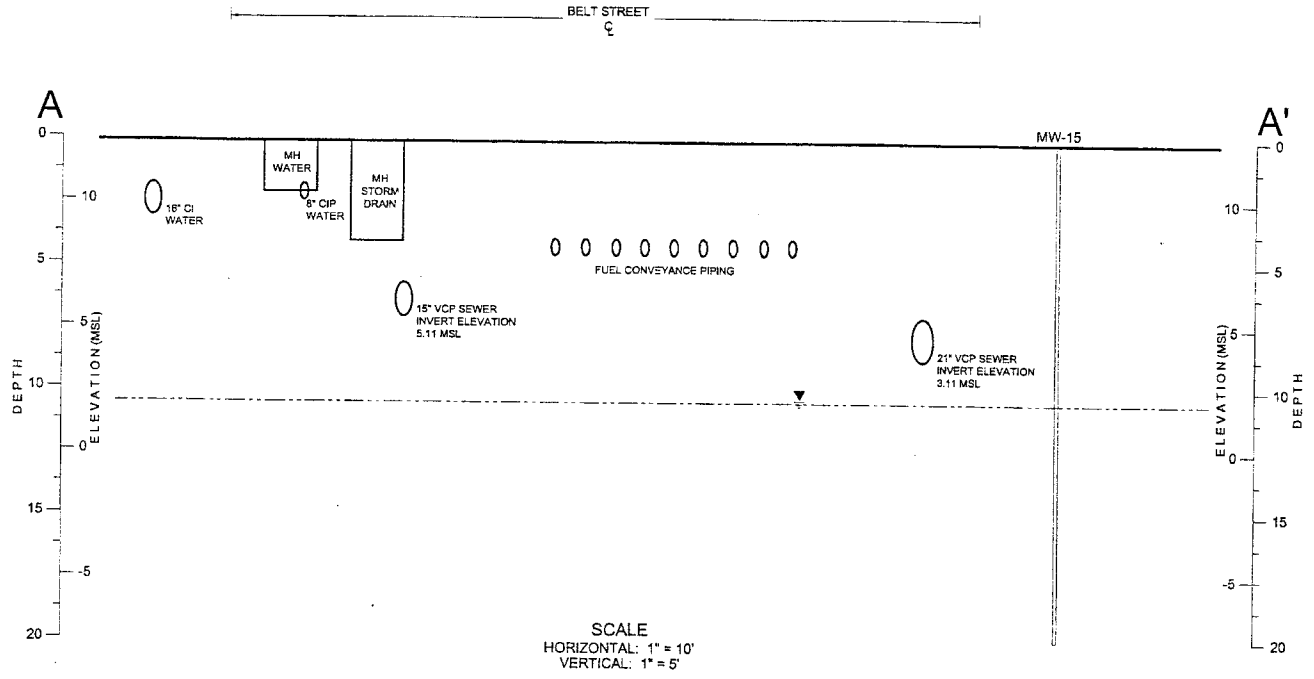
E:/GEOTECH/PLATE/ESITEPLN.DWG/aml

SITE PLAN SHOWING ONSITE STORM DRAIN

BELT STREET PIPELINE
SAN DIEGO, CALIFORNIA

DATE 11 - 05 - 2002	PROJECT NO. 09225 - 06 - 01	FIG. 5

BELT STREET PIPELINE
SAN DIEGO, CALIFORNIA

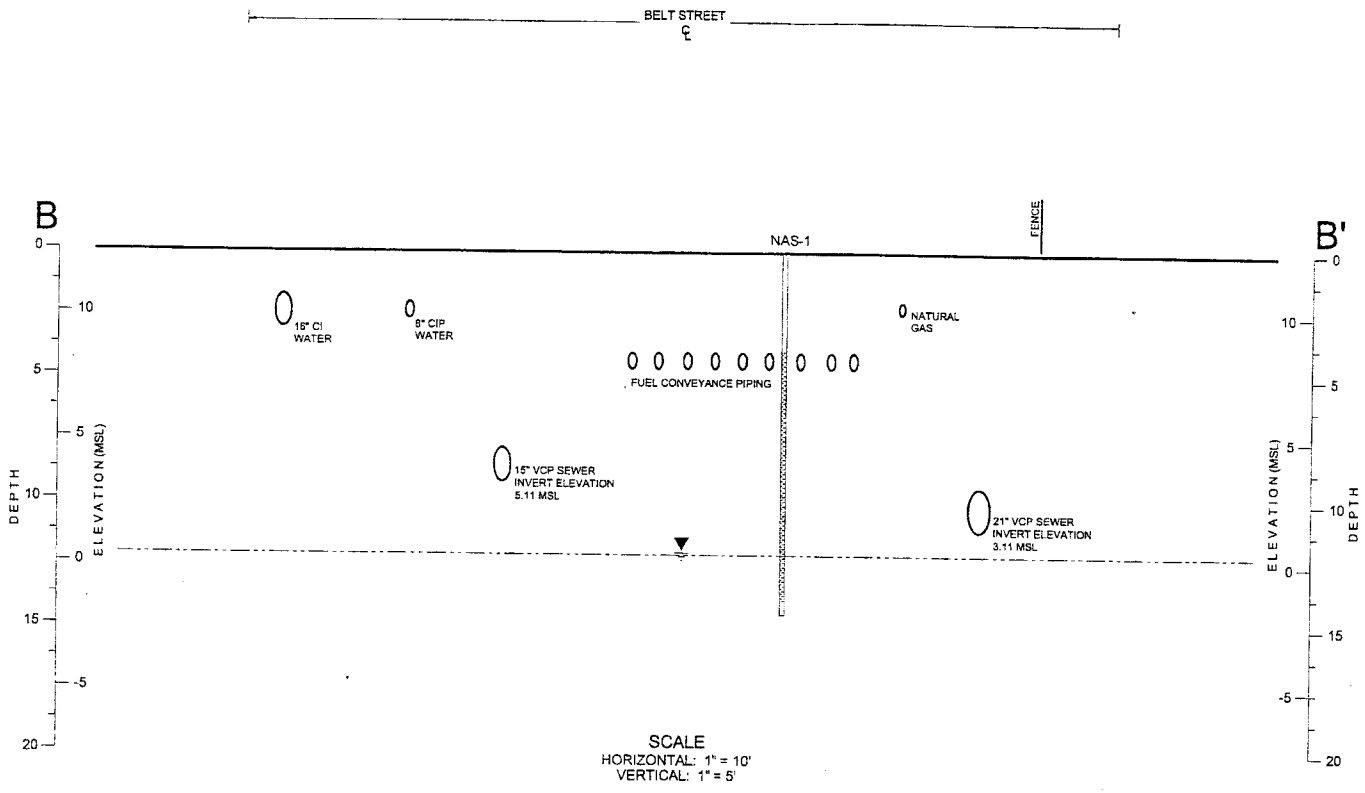


CROSS SECTION A-A'

GEOCON
CONSULTANTS, INC.
ENVIRONMENTAL ■ GEOTECHNICAL ■ MATERIALS
6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE (858) 558-6100 - FAX (858) 558-6437
PROJECT NO. 09225 - 06 - 01
FIGURE 6
DATE 11 - 05 - 2002

E:/2002/9225_XAA.DWG/cmi

BELT STREET PIPELINE
SAN DIEGO, CALIFORNIA

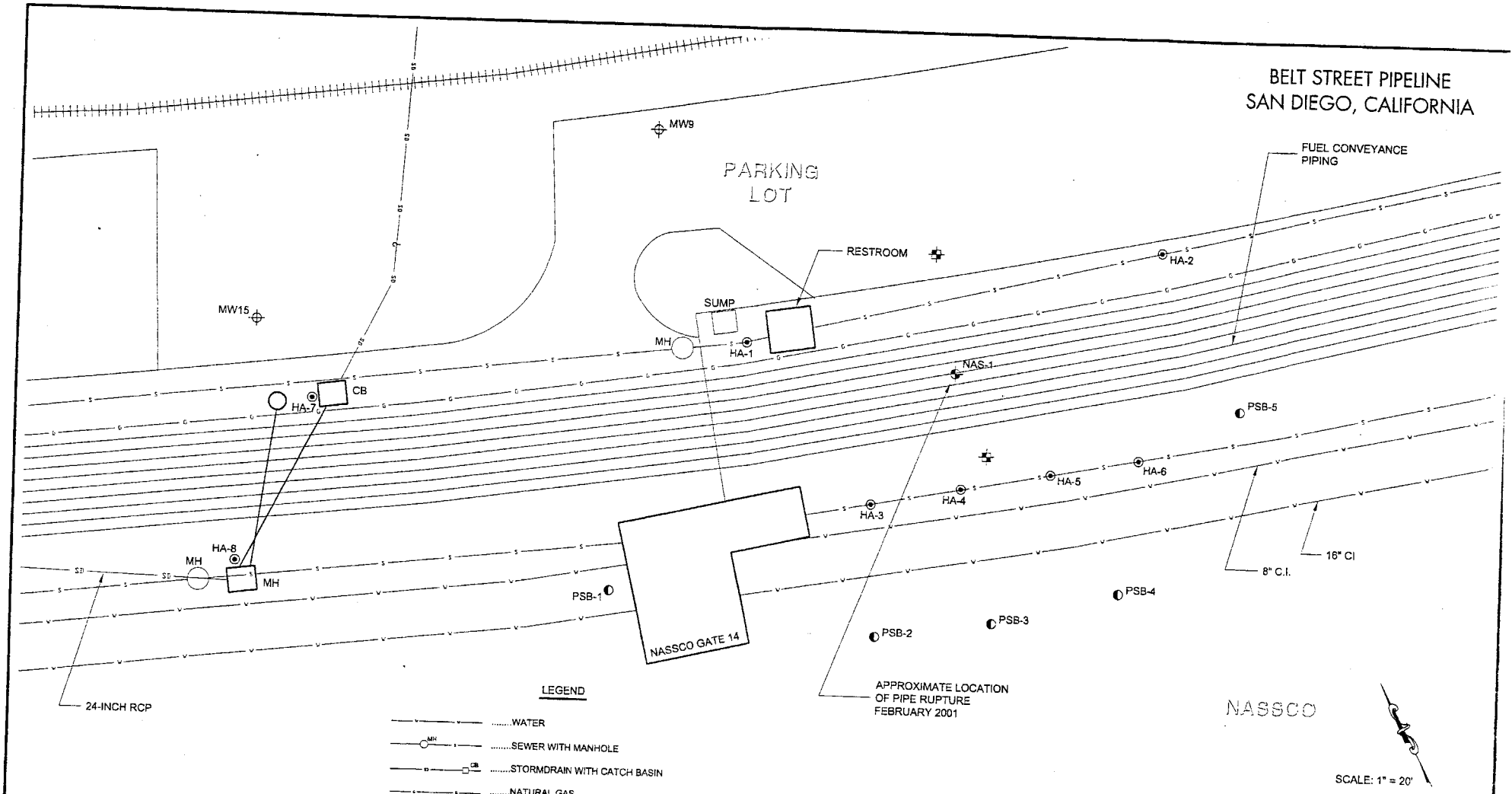


SCALE
HORIZONTAL: 1" = 10'
VERTICAL: 1" = 5'

CROSS SECTION B-B'

GEOCON
CONSULTANTS, INC.
ENVIRONMENTAL ■ GEOTECHNICAL ■ MATERIALS
6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE (858) 558-6100 - FAX (858) 558-8437
PROJECT NO. 09225 - 06 - 01
FIGURE 7
DATE 11 - 05 - 2002

E:/2002/9225_XSB.DWG/cml



SOURCE: PLANS FOR IMPROVEMENT OF BELT STREET
TRUNK SEWER CITY OF SAN DIEGO ENGINEERING
DEPARTMENT PREPARED BY P&D CONSULTANTS 1/10/99

E/2002/9225_RK2.DWG/sml

SITE PLAN SHOWING PROPOSED BORINGS AND MONITORING WELLS

GEOCON
CONSULTANTS, INC.
ENVIRONMENTAL ■ GEOTECHNICAL ■ MATERIALS
6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE (858) 558-6100 - FAX (858) 558-8437

PROJECT NO. 09225 - 06 - 01
FIGURE 8
DATE 11 - 05 - 2002